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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,417	02/01/2001	Sueng-il Nam	GB 000019	7406
24737	7590	10/26/2004	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			BURD, KEVIN MICHAEL	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 10/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/773,417

Applicant(s)

NAM, SUENG-IL

Examiner

Kevin M. Burd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. This office action, in response to the remarks filed 7/30/2004, is a non-final office action.

Response to Arguments

2. The drawings were received on 7/30/2004. These drawings are approved.
3. Applicant's arguments, see remarks, filed 7/30/2004, with respect to 1-9 have been fully considered and are persuasive. The 35USC 102(b) rejections of the claims have been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Karam et al (US 5,148,448) in view of Chow et al (US 6,614,854).
4. The previous objection to the abstract is maintained and restated below.

Specification

5. The abstract of the disclosure is objected to because line 14 should be deleted. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karam et al (US 5,148,448) in view of Chow et al (US 6,614,854).

Regarding claim 1, Karam discloses a method of operating a communications system, shown in figure 4, in which the magnitude of the signal is varied (predistorted) and is modulated and transmitted. The predistortion occurs to counter act the effects of channel distortion of the constellation of the recovered signal (abstract and column 1, lines 7-31). Karam utilizes the signal that is to be transmitted as feedback to predistort the transmitter in the predistortion circuit 11. Karam does not disclose receiving a signal from receiver to correct for predistortion. Chow discloses, in figure 4, utilizing a feedback loop in the transmitting node 401 to correct for the distortion created by the amplifier 413. Chow also discloses the receiver measures signal characteristics and concludes that an adjustment is necessary to compensate for distortion. This information is communicated back to the transmitting node 401 so proper predistortion of the transmitter takes place (column 6, lines 52-57). Additional information is provided in column 12, line 55 to column 13, line 20. It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the teachings of Chow in to the transmitter of Karam. Chow discloses a method of compensating for additional distortion than just the distortion created from the power amplifier. Distortion cause by the transmitted signal, the channel, input power modulation type, data encoding and aging components are also compensated (column 12, lines 41-54).

Regarding claim 2, Karam further discloses quadrature related components and the complements are combined and modulated in element 14 and transmitted. The

signal is received in element 16 and decoded and demodulated. Distortions are measured and adjustments are made to predistort the signal in circuit 11 (column 6, lines 30-64). Distortions will occur in the constellations as shown in figures 3A and 3B.

Regarding claim 3, the complementary constellation points are used to determine the error occurring in the transmission to compensate for the errors present (Karam: figure 6 and column 7, lines 8-35).

Regarding claim 4, 5, 7 and 8, Karam discloses a method of operating a communications system, shown in figure 4, in which the magnitude of the signal is varied (predistorted) and is modulated and transmitted. The quadrature related components and the complements are combined and modulated in element 14 and transmitted. The signal is received in element 16 and demodulated. Distortions are measured and adjustments are made to predistort the signal in circuit 11 (column 6, lines 30-64). Distortions will occur in the constellations as shown in figures 3A and 3B. Karam does not disclose receiving a signal from receiver to correct for predistortion. Chow discloses, in figure 4, utilizing a feedback loop in the transmitting node 401 to correct for the distortion created by the amplifier 413. Chow also discloses the receiver measures signal characteristics and concludes that an adjustment is necessary to compensate for distortion. This information is communicated back to the transmitting node 401 so proper predistortion of the transmitter takes place (column 6, lines 52-57). Additional information is provided in column 12, line 55 to column 13, line 20. It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the teachings of Chow in to the transmitter of Karam. Chow discloses a

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method of compensating for additional distortion than just the distortion created from the power amplifier. Distortion caused by the transmitted signal, the channel, input power modulation type, data encoding and aging components are also compensated (column 12, lines 41-54).

Regarding claims 6 and 9, the complementary constellation points are used to determine the error occurring in the transmission to compensate for the errors present (Karam: figure 6 and column 7, lines 8-35).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Thursday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin M. Burd

10/23/2004

KEVIN BURD
PATENT EXAMINER